



STATE OF MICHIGAN

DEPARTMENT OF TRANSPORTATION
LANSING

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TO: All Local Agencies

Rescinding of the “Policy of Density Testing Requirements for State and Federal Aid Projects under Local Highway Agencies Control in Michigan”, 1992

On October 5, 1992, a “Policy of Density Testing Requirements for State and Federal Aid Projects under Local Highway Agencies Control in Michigan”, was signed by the Michigan Department of Transportation (MDOT) Engineer of Local Services allowing the local agencies to waive density testing on various items of work including subbase, aggregate base, backfill, bituminous paving, etc. The document was signed shortly after the release of the 1990 Standard Specifications for Construction which reinforced the need to achieve density in the various items of work. During 1990 through 1996, the Reinhart test method was the major method utilized for density testing. After 1996, the Reinhart test method was being phased out due to the increased popularity of nuclear density gauges. Both the nuclear density gauges and the trained personnel to operate them were not readily available at the time of introduction into the State of Michigan (early 1990’s).

As the years progressed, under the ISTEA legislation, the certified technician program was introduced which resulted in an increase of personnel within the State of Michigan that were certified to operate nuclear density gauges. The regulation for Quality Assurance Procedures for Construction was published as 23 CFR 637 on June 29, 1995. This regulation established a deadline of June 29, 2000 for having all sampling and testing used in the acceptance decision performed by qualified technicians.

On April 6, 2000, MDOT issued Bureau of Highway Instructional Memorandum (BOHIM) 2000-04 *Qualifications Requirements Sampling and Testing on the National Highway System (NHS)* which stated, “Beginning July 1, 2000, all sampling and testing data used in the acceptance testing or the Independent Assurance Program must be conducted by qualified personnel. This applies to concrete, bituminous, soil density and aggregate acceptance testing for all contractor, local agency, consultant and MDOT personnel.” On November 29, 2000, a supplement to BOHIM 2000-04 was issued under BOHIM 2000-21 *Qualifying Local Agency Technicians (Supplement to BOHIM 2000-04)* stating that the “Sampling and testing by certified technicians will no longer be a requirement on local agency projects that are not on the NHS. However, MDOT recommends that only qualified testers be utilized on these projects.” The requirements for the soil density and aggregate acceptance testing for all contractor and local agency personnel remained the same.

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In 2001, MDOT's *Materials Quality Assurance Procedures Manual* was developed. This manual detailed the required construction project documentation required for minimum job control deviations and requires that the MDOT *Density Control Handbook* be followed for testing requirements.

The current requirements detailed in the 2003 Standard Specifications for Construction also refer to the *Density Control Handbook* for maximum unit weight and in-place density test methods. Prior to adopting the 2003 *Density Control Handbook*, MDOT switched exclusively to the nuclear gauge method due to lack of parts available for the existing Reinhart testing equipment and also due to the convenience of the nuclear method. As a result, the November 2003 *Density Control Handbook* only references the Nuclear Moisture-Density Gauge.

Therefore, based on the emphasis of density testing required in the specifications, increased availability of certified technicians and nuclear gauges, requirements of 23 CFR 637, state procedure detailed in BOHIM 200-04 and supplement (2000-21), and increased need to improve the longevity of Michigan's roadways, the "Policy of Density Testing Requirements for State and Federal Aid Projects under Local Highway Agencies Control in Michigan", dated 1992 is hereby rescinded. Obtaining and validating density remains a requirement for local agency projects administered through the department.

The local agency will be allowed to continue utilizing the number of roller method in lieu of density testing on Hot Mixed Asphalt (HMA) for non-NHS routes throughout the state of Michigan. The number of roller methods has proven to be an effective method specification which yields acceptable end results.

If you have any questions on this correspondence, please contact Doug Needham, at (517) 335-2229 or needhamd@michigan.gov.

Sincerely,

Mark A. Van Port Fleet
Engineer of Design